THE FUTURE OF MEDICAL SCIENCE

The slow progress and the present imperfect state of medical science, when compared with most of the other natural sciences, is attributable to two causes. One of these causes is to be found in the nature and character of the science itself,—in the almost infinite variety, extent, and complexity of its phenomena and their relationships. This cause is inherent and irremovable, and it is, in itself, sufficient to have kept the [medical] science behind the others to which I have referred. The second cause is to be found in the general misapprehension, which has always existed, in regard to the true nature and objects of medical science, and the best and, indeed, the only methods of promoting its progress. The latter cause has been vastly more instrumental in retarding its advancement, than the former. This cause is not inherent, and may be easily removed. It is, even now, gradually becoming feebler and less extensive in its influences; and in some regions of the general domain of our science it has almost wholly disappeared. An endeavor to estimate the probable result of its entire disappearance, and the substitution in its place of a true philosophy, and of the only legitimate and productive methods and processes of investigation, will form an appropriate conclusion of our labors. Let us consult the signs in our zodiac, and see how far we can cast the horoscope of the destiny which awaits us.

The history of practical medicine, especially, during the last twenty-five years, and a right appreciation of its character, and the conditions and means of its progress, furnish us with very positive assurance, that many of its most important laws will gradually, but steadily and certainly, be carried forwards to their entire and final establishment. The foundations of many of these laws,—and of those too most difficult of determination,—have been already broadly and securely laid; and although many years must elapse, amidst earnest, unremitting, and conscientious toil, before these laws can be *definitively* and *fully* settled, it is not possible, in the nature of things, that we can be deceived, or disappointed, in this consummation, so devoutly to be wished. The minute and thorough study of diseases, in all their aspects, phases, and relationships, which is now prosecuted, with so much zeal and fidelity, cannot fail of leading to the result of which I have spoken. The great laws

of pathology and its relations,—of etiology, and therapeutics,—are sure to be ascertained; each successive year will add something to their development, in the steady accumulation of legitimate and authentic materials, and in their disposition and analysis, so that, in the end, the *entire natural history of diseases* will be made out and written.

In this progress of medical science, which we thus confidently anticipate, some of its branches will take precedence of others. Diagnosis, for instance, will be in advance of therapeutics; and this for two reasons. In the first place, the elements of the former are fewer, and less complex in their relationships, than those of the latter; and in the second place, diagnosis is an *essential prerequisite* of therapeutics. These are amongst the reasons why improvements in the treatment of disease, especially for the last twenty-five years, have not kept pace with the advances, which have been made in our knowledge of disease itself. After our knowledge of pathology, and our nosological diagnosis growing out of this, have reached their highest attainable point of accuracy and positiveness, there is still left an almost interminable field of investigation, in the study of the relationships between the morbid condition, thus ascertained, and the substances and agencies in nature, which can in any way affect or influence this condition. Let us look, for a single moment, at the extent and the complexity of these relationships. They are almost infinite. Look at any single disease, even of the simplest and best settled character; and let us suppose that all its elements, as far as this is possible, in the nature of things, have been accurately ascertained. Before our therapeutical knowledge of this disease can be said, in literal strictness, to be *complete*, we must know the effects and influences, which *all the substances and agencies in nature are capable of producing upon it;* and we can know this only by direct observation of the effects themselves. . . .

ELISHA BARTLETT: *An Essay on the Philosophy of Medical Science.* Philadelphia, Lea & Blanchard, 1844, pp. 282-85.

Correction

With reference to Krogman, W. M.: Man: Molder of Destiny. *Bull. N.Y. Acad. Medicine 49:* 3, 197-221, 1973. The headings for Tables I and II are interchanged.